

DOCUMENT RESUME

LD 139 161

EC 100 736

AUTHOR Neuschatz, Sanford; And Others
 TITLE Involvement and Communication in a Systematic and Behavioral Intervention Program for Secondary Students.
 PUB DATE Apr 77
 NOTE 30p.; Paper presented at the Annual International Convention, The Council for Exceptional Children (55th, Atlanta, Georgia, April 12-15, 1977)
 EDRS PRICE MF-\$0.83 HC-\$2.06 Plus Postage.
 DESCRIPTORS *Behavior Change; *Behavior Problems; *Contingency Management; Exceptional Child Research; Interpersonal Relationship; *Intervention; *Low Motivation; Parent Participation; Secondary Education; Study Habits; *Teacher Role

ABSTRACT

Investigated with three secondary school students who were unable to complete class assignments because of motivational and attitudinal problems was the effect of teacher-written praise notes and parental support on academic performance. Results of the intervention and communication between parent, teacher, and student indicated academic gains with two Ss and reduced absences and class trancies. Additionally, both Ss demonstrated positive interpersonal gains as indicated by the results of sociograms measuring interpersonal desirability among peers. (IM)

 * Documents acquired by ERIC include many informal unpublished *
 * materials not available from other sources. ERIC makes every effort *
 * to obtain the best copy available. Nevertheless, items of marginal *
 * reproducibility are often encountered and this affects the quality *
 * of the microfiche and hardcopy reproductions ERIC makes available *
 * via the ERIC Document Reproduction Service (EDRS). EDRS is not *
 * responsible for the quality of the original document. Reproductions *
 * supplied by EDRS are the best that can be made from the original. *

ED139161

p30

Session 83
Brampton B
Orr

INVOLVEMENT AND COMMUNICATION IN A SYSTEMATIC AND BEHAVIORAL
INTERVENTION PROGRAM FOR SECONDARY STUDENTS

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

Sanford Neuschatz, M.Ed.

Steve C. Imber, Ph.D.

Judith Preble, B.A.

Paper Presented at Council of Exceptional Children
55th Annual International Convention: Atlanta, Georgia

April, 1977

EC100736

INVOLVEMENT AND COMMUNICATION IN A SYSTEMATIC AND BEHAVIORAL

INTERVENTION PROGRAM FOR SECONDARY STUDENTS

Behavior modification, the application of learning principles to human behavior, has become widespread in a variety of settings and with different populations. One area where it has attained a great deal of success has been in educational environments. Classroom use of operant procedures is cited throughout the literature in both individual studies and complete texts, (Fargas and Behrns, 1970; Haring and Philips, 1972; Harris, 1972; MacMillan, 1973; Meacham and Wiesan, 1969; Ulrich et.al., 1970). Behavioral strategies have been used in the nursery school, (Brown and Elliott, 1965), the elementary school, (Evans and Oswalt, 1968), the secondary school, (McAllister et.al., 1969), and on the college level, (Biehler, 1970).

Evidence has indicated that academic performance can be accelerated and improved utilizing reinforcement programming, (Hall, Lund, and Jackson, 1968; Kirby and Shields, 1972; and McClaughlin and Malaby, 1972).

Behavior modification techniques have not gone unchallenged, however, for a variety of reasons. Among the criticisms has been the challenge from humanistic psychologists who state that a science of human behavior does not adequately account for feelings and interpersonal dynamics. They claim that the affective area is all but ignored, and interpersonal communication is severely limited, (Goble, 1971; Kolesnick, 1975; Matsen, 1966).

On the other hand, experimental psychologists have countered the humanists' charges by attempting to operationalize cognitive, affective, interpersonal, verbal, and other complex behaviors, that they consider to be too vaguely and unscientifically described by their humanistic colleagues. Skinner, (1965), has suggested the analysis of verbal behavior, as well as introducing the notion of a behavioral analysis of thinking in his Technology of Teaching, (1968). Complex

human behaviors such as language development, social interactions, and human motivation has been empirically studied, (Staats and Staats, (1964). Ulrich, (1972), has devoted an entire text to the experimental analysis of social behavior including cooperation, love, liking, the development of positive attitudes, and group cohesiveness. Personality development, from the point of view of behavioral and social learning theory, has been examined in a text by Ullman and Krasner, (1973). Lott and Lott, (1961, 1972), have demonstrated that the development of interpersonal attitudes in elementary school, which might affect future educational achievement, can be empirically analyzed and behaviorally modified. Another text is available which advances behavioral change through a group therapy design, (Rose, 1974). Mahoney, (1973), has presented a thorough review of the area of cognition and behavior modification. With regard to the analysis of self-concept, Rotter, (1971), has operationally defined the qualities of extrinsically and intrinsically motivated individuals. This work helps to design better reinforcement and motivational programs.

The Humanizing Learning Program of Research for Better Schools, Inc., in Philadelphia, in coordination with the Center for the Study of Evaluation in Los Angeles, has compiled an evaluative summary of tests which measure higher-order cognitive, affective, and interpersonal skills which relate to school success, (Hoepfner et.al., 1972). Research for Better Schools is interested in helping to develop a skills-oriented integrated curriculum aimed at optimizing human potential in the intellectual, affective, and interpersonal areas. In order to accomplish this goal, they have joined with the latter organization. An indispensable part of such an endeavor must include a system of data collecting and feedback mechanisms for learners and teachers to be able to measure their progress.

The idea of the integration of the empirical aspects of behavior analysis with the affective and interpersonal concerns of humanistic psychology and education is appealing. An entire issue of Educational Technology (1974), has been devoted to the reconciliation of the behavioral and humanistic schools of thought. Several excellent position papers have been presented, (Woodruff and Kapfer, 1972; Rosouls, 1972).

A signpost that the interrelationship of behaviorism and humanism is approaching, is evidenced by the theme of the 1977 Annual Regional Conference on Humanistic Approaches in Behavior Modification. Topics included such areas as the development of social skills in deviant pre-schoolers; cognitive behavior modification; communicating with parents of exceptional children; motivation, self-concept and the gifted; and the humanistic understanding of human behavior.

Several studies have recently indicated a strengthening of the behavioristic-humanistic merger. It has been shown that academic behavior can be modified. As behavior modification has also been demonstrated to be effective in home settings, (Baily, Welf, and Philips, 1970); Herbert and Baer, 1972; Johnson and Katz, 1973), it would then follow that parent-teacher communication would be invaluable in implementing behavioral strategies. Tharp and Wetzel, (1969), have supported such an application of behavior modification. They propose that intermediaries be taught to provide rewards. In this manner, people who are closest to the client can be taught to effectively change behavior. Essentially, the rationale is that more consistent and meaningful contingencies will be designed. Consequently, in a school situation a teacher might be more effective if the parent of the student could be directly involved with the procedures. This would encourage communication and would bring behavior modification within the realm of the humanists' regard for interpersonal dynamics. Two references can be found which have suggested that the use of positive, written teacher notes in

conjunction with parental communication is helpful as a strategy for increasing appropriate school behavior, (Coloroso, 1976; Dickerson et.al., 1973). Neither work, however, has been systematically supported with data.

Imber, Imber and Rothstein, (1977), have provided empirical evidence that academic performance can be significantly improved as a result of a behavior modification strategy which encourages parent communication. Teacher-administered praise notes along with parent phone calls and instructions, which explain to the parent the reinforcement procedures, served as an effective intervention which was highly significant in improving academic behavior of three elementary school children. The multiple baseline procedure was a systematic example of the Tharp and Wetzel model. As behavior modification procedures can often times be quite involved for the classroom teacher, it was the desire of Imber et.al. to design a simple and easily executed behavioral intervention which encouraged social reinforcement and communication between the student, teacher and parent.

The following study is a replication of the Imber et.al. experiment with a secondary school population. In addition, as it is evident that other affective variables may have played an important role in that study, this research will also present a preliminary investigation on the feasibility of measuring such variables as trust and self-concept as they correlate with improved academic performance.

METHODS

Subjects

Three secondary school students from a suburban New England high school, who were identified by their teacher as not being able to complete their assignments in English class, participated in this study. A learning disabilities resource teacher assessed each student to determine if the assignments were appropriate to their ability. S 1 and S 2 demonstrated potential, but S 3 scored in a range that raised some doubts about his ability. The primary problem for all three was apparently motivational; however, and it was assumed that S 3's attitudinal difficulties might be the overriding factor for his low assessment.

S 1, a tenth grade male, was described by his teacher as having no interest in basic grammar. He had a history of class truancy or "cutting", and for over a year he had tried unsuccessfully to demonstrate mastery in this subject. His teacher described him as not unlikable but extremely turned off to school. He was more interested in rock music. He was basically quiet and liked to draw pictures on his blank or partially completed assignments.

S 2, a ninth grade black female, was also unable to complete her basic grammar seatwork. She was a serious absentee problem, a class truant, and during this study had been suspended several times for breaking minor school rules such as excessive class truancy. Her teacher described her as outgoing and very friendly. She was more motivated toward socializing with her friends, however, than completing her school work.

S 3 was the most problematical class truant. The teacher described him as being extremely removed and aloof from all activity. He was extremely unmotivated and unresponsive when in class. His absenteeism became so severe during this study that little interaction could ensue.

Using the Devereux Adolescent Behavior Rating Scale, S 1 could be depicted as

defiant and resistant, withdrawn, and having a desire to uphold an emotional distance from people. S 2 was more outgoing and hyperactive as well as defiant and resistant. S 3 was characterized as defiant and resistant, timid and withdrawn, and desiring a tremendous degree of emotional distance. On the Imber Student Trust Rating Scale, (1971), the teacher rated S 1 as highly undependable but average in trust and security. S 2 was considered to be average on the dimensions of trust, security and dependability. S 3 was rated as having a low sense of trust, being insecure and highly undependable. The teacher felt friendly with all the students but had reservations about the approachability of S 3 in an academic setting.

Treatment Conditions

There were daily 43 minute English classes, during which time each student worked individually on independent seatwork tasks. Each of the 20 students in the class worked alone on one of seven LAPS, (Learning Activity Packages), which included basic grammar, vocabulary, spelling, reading, basic composition, elements of fiction, and intermediate composition. Upon successful mastery of a LAP, the student would move on to the next area. S 1 had been struggling with grammar for six quarters or 1 1/2 years. S 2 and S 3 were in that LAP for almost three quarters or since they started ninth grade. Each day lists of sentences were handed out with 25 underlined words or phrases. The student had to identify, according to an established code, the various parts of speech and sentence functions. The student's work was computed as a percentage of correctly completed items. All work was corrected and returned on the same day on which it was assigned.

The study consisted of three treatment phases: (1) baseline, which involved assigning and tallying the independent grammar assignments; (2) intervention 1, which required a private meeting between the teacher and the student in order to explain to the student that on days for which most of his seatwork was correctly completed, the student could expect to receive a praise note from the teacher. In the original study with Imber, et.al., (1977), the students were required to accurately complete a minimum of 80% of their seatwork in order to earn such a note. With the added variable of class truancy which is common on the high school level, it was decided that to successively approximate higher academic success, notes would be distributed for simply attending classes and making any attempt with their work; (3) intervention 2, which involved teacher-parent contact by telephone as well as in writing to explain the procedures. The parents were asked to express positive comments to the student when a call was made but that when success was not achieved, no punishment was to be administered.

It was planned to demonstrate a multiple baseline in this study but class truancy and excessive absences prevented an accurate account for that research design.

In addition to the behavioral intervention, affective and interpersonal data was collected. The Imber Trust Scale for Children and Teachers, (1971), was administered in both the pre- and post-intervention phases. Measures of a student's trust toward his father, mother, peers and teachers were gathered. A self-Concept Adjective Checklist, (Politte, 1972) was administered. A sociogram provided information on certain classroom interpersonal dynamics.

RESULTS

Table 1 summarizes the percentage of correctly completed items for the three subjects during each of the treatment phases.

(Insert Table 1)

Subject 1

During S 1's ten days of baseline, he correctly completed 6.4% of his independent English class assignments in basic grammar. The daily completion rate ranged from 0% to 28% with 5 class truanies, which counted as 0% each, and 1 full day absence which was not included in the baseline. It should be noted that class truanies refer to missing only the English class but that the student was in school on that day. An absence refers to the failure to appear for a full day of school and was considered as a legitimate excuse and, therefore, not included in baseline (note Table 2). The mean percentage of completed items increased to 43.9% during Intervention 1, with a range from 0% to 82%. He was class truant for 2 days and had no absences for that period. He received 7 notes of praise. S 1 continued to show improvement during Intervention 2, although only slightly. He received 9 notes of praise during that ten day period and achieved a mean score of 46.8% with a range from 0% to 76%. He was class truant only once and although he was suspended from school during that period for three days, he was not absent at all. It is important to note that on the day after Intervention 2 was completed, S 1 attempted a Mastery Skills Test in basic grammar and passed. He has since moved on to the next LAP, which is spelling.

On the 40 item Imber Trust Scale, each trusting response received 1 point. The mean scores for the entire class in each category (10 points for each area of father, mother, peer and teacher trust), presented in Table 3 and compared

TABLE I

Mean Percentage of Correctly Completed Items of Independent Basic Grammar Seatwork and Number of Praise Notes Earned During Conditions of Baseline, Intervention 1 and Intervention 2.

SUBJECT	BASE LINE		INTERVENTION I			INTERVENTION 2		
	No. of Days	% Items	No. of Days	% Items	No. of Notes	No. of Days	% Items	# Notes
S 1	10	6.4%	10	43.9%	7	10	46.8%	9
S 2	15	8.3%	10	39.4%	6	INCOMPLETE	DATA	
S 3	20	2.3%	INCOMPLETE	DATA		INCOMPLETE	DATA	

with the scores of the subjects. S 1 scored extremely low on the pre-test but noted substantial gains on the post-test with regard to his trust of teachers. On the Politte Self-Concept Adjective Checklist, S 1 scored the same on pre- and post-administrations. He was portrayed as self confident.

A sociogram asked each of 13 students to select those students in their class who in their opinion displayed positive attributes. S 1 was selected in response to 2 questions by 2 students on the pre-test and on 4 selections by 2 students on the post-test. He gained 2 positive selections after the intervention.

Subject 2

During the 15 days of S 2's baseline, 8.3% of independent English class assignments in basic grammar was completed. The daily completion rate varied from 0% to 72% with 11 class truancies and 3 absences. During Intervention 1, the mean percentage of completed items increased to 39.4% with a daily range from 0% to 72%. There were 4 class truancies and 2 absences but 5 days of suspension from school. As S 2 had been absent or suspended for a long duration, Intervention 2 was not performed by the date of the presentation of this preliminary study.

On the Imber Trust Scales, S 2 showed a decrease in trust with her father, mother, and teacher but an increase with her peers. On the Self-Concept Adjective Checklist, S 2 was portrayed as self confident and there were no differences in pre- and post-test administrations. On the sociogram, she improved her desirability as a friend to her classmates from 3 selections by 2 students to 9 selections by 4 students.

Subject 3

During the 20 day baseline, S 3 only attended class 3 times and averaged 2.3% completed items. On the first two days of Intervention 1, his mean percentage reached 14% but he then began a streak of absences which ultimately lead to an

announcement that he is withdrawing from school on his sixteenth birthday. The data on S 3 was stopped, as he did not appear for post-testing on the affective information and the interventions were impossible as he did not attend class. Multiple Baseline Comparisons were illogical due to the unexpected and uncontrolled variable of class truancy and school absence.

(Insert Table 2)

(Insert Table 3)

TABLE 2

CLASS TRUANCIES AND ABSENCES DURING INTERVENTION PHASES

	S 1			S 2		
	Absences	Class Truancy	Suspensions	Absences	Class Truancy	Suspensions
Baseline	1	6		3	11	
Intervention 1	0	2		2	4	5
Intervention 2	0	1	3			

TABLE 3

Mean scores on Imber Trust Scale for children (Scale 0-10 ranging from least to the most trusting responses)

	FATHER		MOTHER		PEER		TEACHER	
	pre	post	pre	post	pre	post	pre	post
Males (5)	5.8	6.6	5.4	6.6	5.6	5.2	5.8	7.4
Females (8)	6.0	6.0	4.5	6.1	5.3	6.3	6.9	7.9
Total (13)	5.9	6.1	4.8	6.3	5.4	5.8	6.5	7.7
S 1 (M)	1.0	1.0	1.0	2.0	2.0	1.0	2.0	4.0
S 2 (F)	8.0	4.0	4.0	2.0	3.0	5.0	7.0	6.0

FIGURE 1 -- Comparison of the effects of teacher administered praise notes on independent grammar seatwork. "Subject 1"

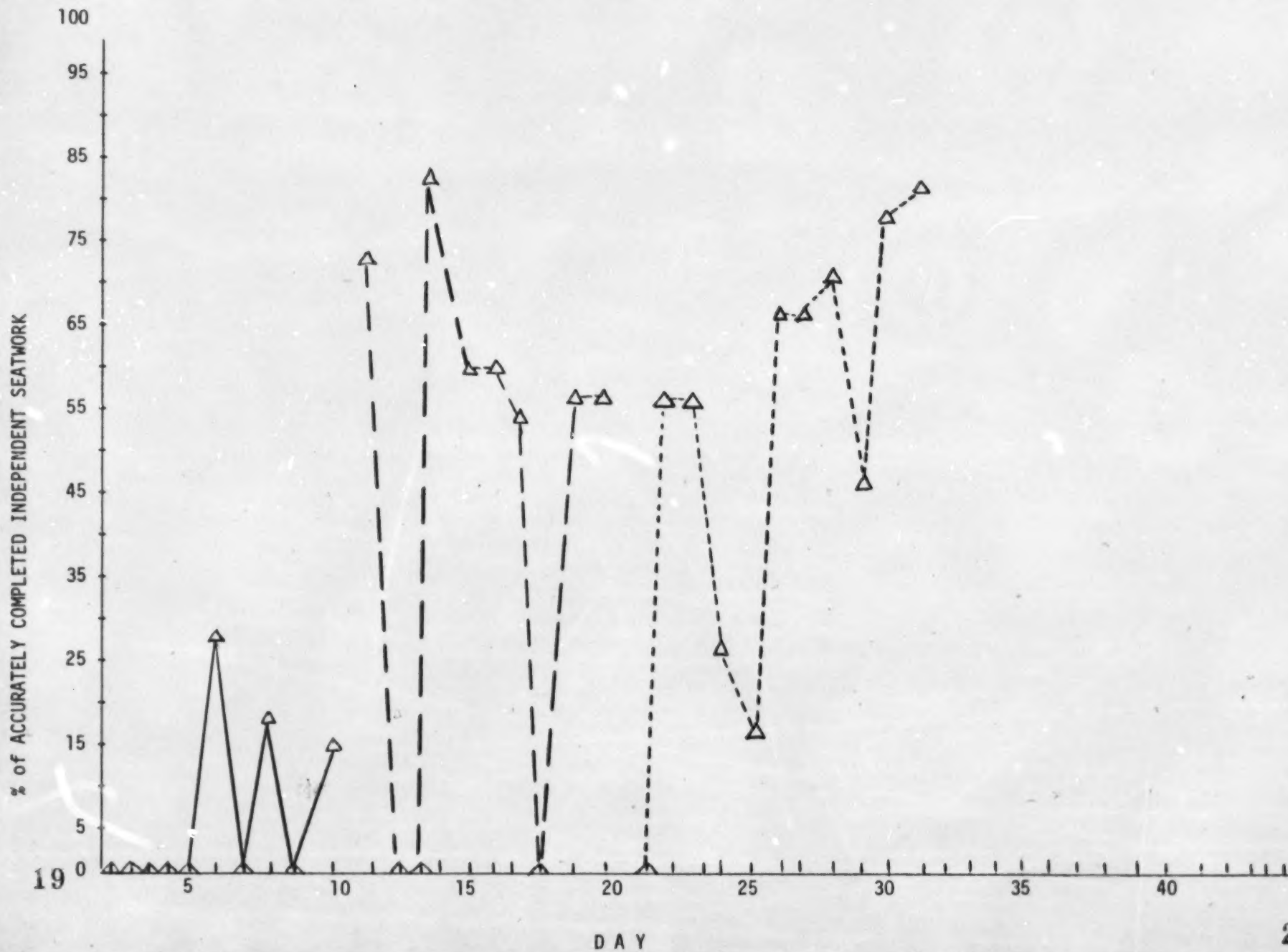


FIGURE 2 -- Comparison of the effects of teacher administered praise notes on independent grammar seatwork. "Subject 2"

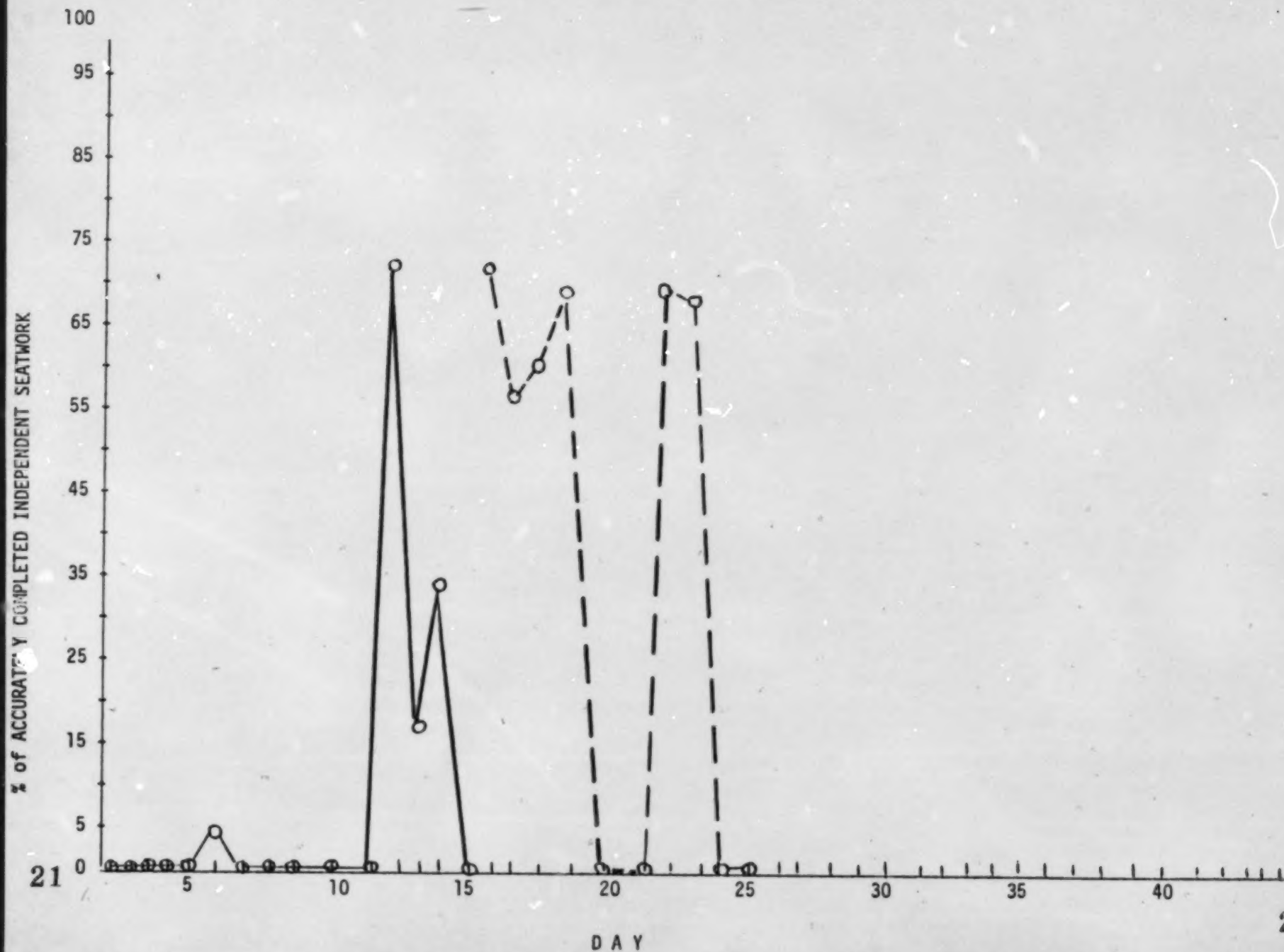
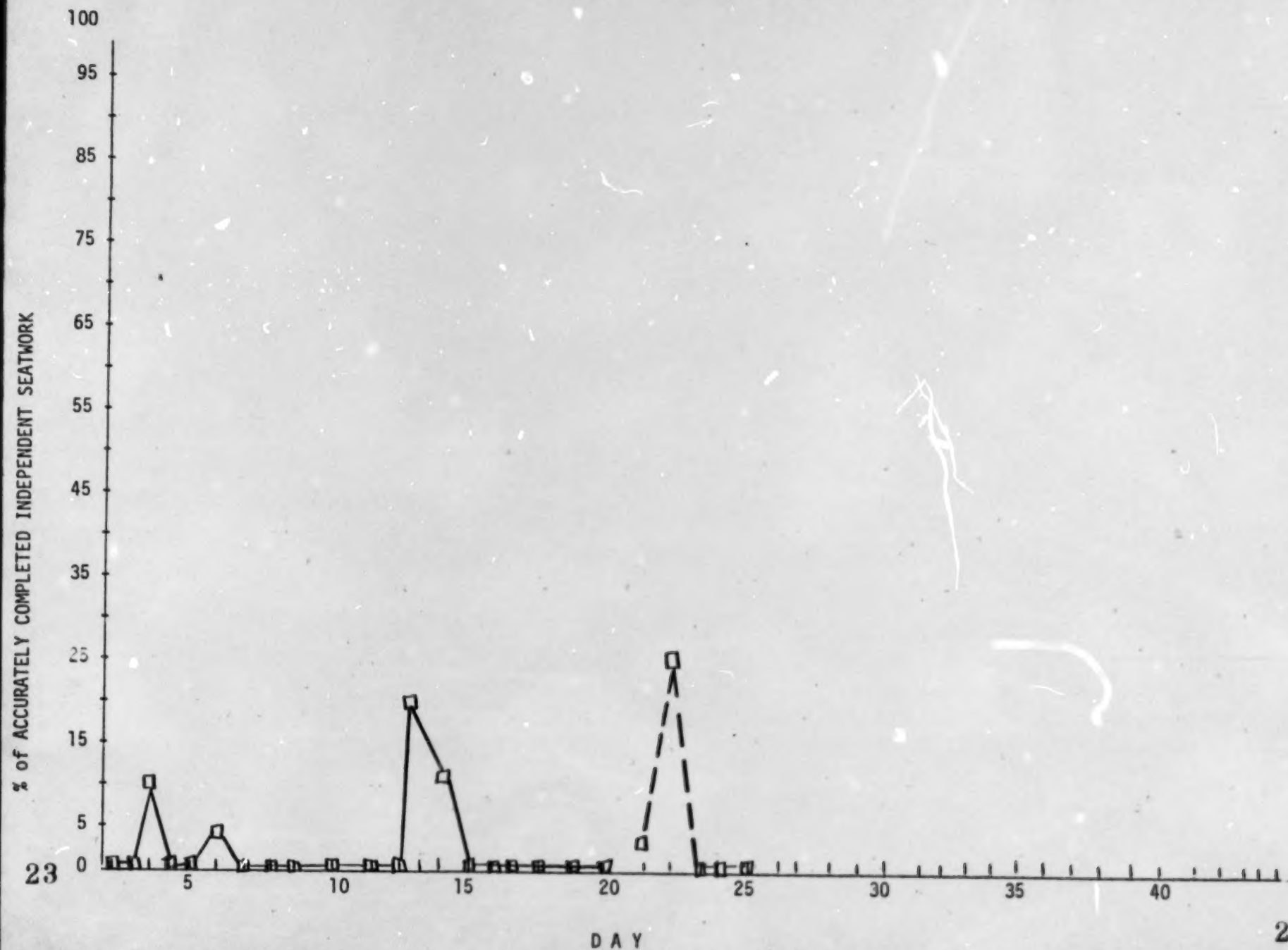


FIGURE 3 -- Comparison of the effects of teacher administered praise notes on independent grammar seatwork. "Subject 3"



DISCUSSION

This study was designed to replicate the findings of Imber, Imber, and Rothstein, (1977), which investigated the possibility of teacher written praise notes with parental support, producing a significant effect on academic performance. The original study involved elementary school children, while this paper involved a secondary population. In addition, a preliminary analysis of affective factors was attempted. The authors hoped to introduce materials that might stimulate future research on the interrelationship between systematic behavioral intervention programs and affective and interpersonal variables that can also be systematically measured.

The involvement and communication between parent, teacher and student in this study demonstrated academic gains with S 1 and S 2, but there were particularly noticeable gains with regard to reduced absences and class trancies (see Table 3). Also, with increased success in school, both students demonstrated positive interpersonal gains as indicated by the results of sociograms which measured interpersonal desirability among peers. The other affective instruments depicted measures which indicated no clear patterns in correlation with other behavioral factors. S 1, who demonstrated the most pronounced behavioral change, did, however, score a higher post-intervention trust response toward teachers on the Imber Trust Scale.

Although there are indications that affective and interpersonal variables can be empirically correlated with behavioral factors, the overall study suggests that there is a need for more accurate measures in the affective domain. If such measures could be developed and improved, there would unquestionably be more efficient and humanistic behavior modification programming. If a more trusting relationship can be shown to increase the efficacy of reinforcement procedures

- (as suggested by the results of this study), and could be measured, then an accountable humanistically-oriented curriculum could be developed in schools. Also, in order to effectively use parent-communication as a systematic intervention, it would be important to empirically understand the interpersonal variables that exist between the parent, student and teacher. If a positive and trusting relationship could be defined, it could be exploited with more predictability in a behavioral intervention program. If a negative relationship was measured, an intervention might first be engineered that could foster more trust, and ultimately, a more meaningful intervention program. Such an orientation would join behavioristic and humanistic thinking in helping to humanize reinforcement procedures and to systematize the area of affective and interpersonal dynamics. This study has introduced one approach to this effect.

The Imber, et.al., (1977), study demonstrated that parent-teacher communication can be helpful in the elementary school. Replicating that study with secondary students was problematical, however. With a high school population, as compared to a self-contained elementary school classroom, absenteeism and class truancy become an increasing problem with unmotivated students. The idea of skipping classes and eventually dropping out of school completely is inherent in the thinking of the unmotivated adolescent. The secondary student maintains behaviors that have become well established over years and his independence to quit school becomes an increasingly more realistic option with age. The elementary school child has less options and usually has a greater dependence on the teacher and parents. Class truancy prevented the use of the multiple baseline technique in this study and also made it necessary to change the target behavior from 80% correct academic responses per day to simple attending behavior.

With the unique problems of working with secondary students, it becomes necessary to rethink intervention procedures. It might be important to compare the relationships between parents, students and teachers in elementary and secondary situations. Also, the urgency of the class truancy and absentee problem in a high school might require more intensive interventions. The traditional forms of punishment, such as suspension for cutting classes, might be studied and compared with more positive humanistically-oriented behavioral intervention programs.

What needs to be accomplished in order to better meet the needs of students, is more precise measures of the affective variables in order to assess those students who might benefit from a humanistically-oriented curriculum. Factors such as, trust, self-concept, and intrinsic versus extrinsic motivation, might be better understood with more empirical analysis. With an understanding of these areas, more successful students might be developed. A systematic yet humanistic curriculum at the elementary level might prevent the eventual unmotivated potential drop out. The authors hope to further review affective instruments such as the Rotter Trust Scale, (1971), in order to help develop more efficient and humanistic behavioral intervention programs.

BIBLIOGRAPHY

Bailey, J.S., Wolf, M.M., and Philips, E.L. Home-based reinforcement and modification of predelinquents' classroom behavior. Journal of Applied Behavior Analysis, 1970, 3 (3), 223-224.

Biehler, R.F. A first attempt at a learning mastery approach. Educational Psychologist, 1970, 7, 7-9.

Brown, P., and Elliot, R. Control of aggression in a nursery school class. Journal of Experimental Child Psychology, 1965, 2, 103-107.

Colorose, B. Strategies for working with troubled students. In Gearheart, B.R., and Weishahn, M.W. The handicapped child in the regular classroom. St. Louis: C.V. Mosby Co. 1976.

Dickerson, D. et.al. Let the cards do the talking: a teacher-parent communication program: daily report card system. Teaching Exceptional Children, Summer 1973, 5, 170-178.

Evans, G.W., and Oswalt, G.L. Acceleration of academic progress through the manipulation of peer influence. Behavior Research and Therapy, 1968, 6, 189-195.

Farge, J.M., Behrns, C., and Nolen, P. Behavior Modification in the Classroom. Belmont, California: Wadsworth Publishing Co. 1970.

Goble, F. The Third Force. New York: Pocket Books, 1971.

Hall, R.V., Lund, D., and Jackson, D. Effects of teacher attention on study behavior. Journal of Applied Behavior Analysis. 1961, 1, 1-12.

Haring, N.G. and Philips, E.L. Analysis and Modification of classroom behavior. Englewood Cliffs, New Jersey: Prentice-Hall, 1972.

Harris, M.B. Classroom uses of behavior modification. Columbus, Ohio: Charles E. Merrill Publishers, 1972.

Herbert, E.W. and Baer, D.R. Training parents as behavior modifiers: self-recording contingent attention. Journal of Applied Behavior Analysis. 1972, 5, 139-149.

Hoepfner, R. et.al. (Eds). Test evaluations. Los Angeles, California: UCLA Graduate School of Education, 1972.

Imber, S. Relationship of trust to academic performance. Journal of Personality and Social Psychology, 1973, 28, 1, 145-150.

Imber, S., Imber, R., and Rothstein, C. Modifying independent work habits: an effective-affective teacher-parent communication program. Paper presented at Council of Exceptional Children, 55th Annual International Convention, Atlanta, Georgia, April, 1977.

Johnson, C.A., and Katz, R.C. Using parents as change agents for their children: a review. Journal of Child Psychology and Psychiatry. 1973, 14, 181-200.

Kirby, F.D. and Shields, F. Modification of arithmetic response rate and attending in a seventh grade student. Journal of Applied Behavior Analysis. 1972, 5, (1), 79-84.

Kolesnik, W.B. Humanism and/or Behaviorism in education. Boston: Allyn and Bacon, 1975.

Lott, A.J., and Lott, B.E. The power of liking: consequences of interpersonal attitudes derived from a liberalized view of secondary reinforcement. Advances in Experimental Psychology. 6, 1972.

Lott, A.J., and Lott, B.E. A learning theory approach to interpersonal attitudes. In A.G. Greewald et. al., (EDS.). Psychological Foundations of attitudes. New York: Academic Press, 1972.

MacMillan, D.K. Behavior modification in education. USA: The MacMillan Co., 1973.

Mahoney, M.J. Cognition and behavior modification. Cambridge, Mass: Ballinger Publishing Co., 1974.

Matsen, F.W. The broken image: man, science, and society. New York Anchor Books, 1966.

McAllister, L.W., J.G., Baer, D.M., and Conderman, L. The application of operant conditioning techniques in a secondary school classroom. Journal of Applied Behavior Analysis, 1969, 2, 277-285.

McGlaughlin, T.F., and Malaby, J. Intrinsic reinforcers in a classroom token economy. Journal of Applied Behavior Analysis, 1972, 5, (3), 263-267.

Meacham, M.L., and Wiesen, A.E. Changing Classroom behavior. Scranton, Pennsylvania: International Textbook Co., 1969.

Rose, S.D. Teaching children in groups: a behavioral approach. New York: Jossey Boss Publishers, 1972.

Rosoul, P.E. The integration of humanism and educational technology. Educational Technology, 1972, 12, (1).

Rotter, J.B. A new scale for the measurement of interpersonal. Journal of Personality, 1967b, 35, 651-665.

Rotter, J.B. External versus internal control. Psychology Today, 5, (1), 1971.

Skinner, B.F. Verbal Behavior. New York: Appleton-Century Crofts, 1965.

Skinner, B.F. The technology of teaching. New York: Appleto-Century Crofts, 1968.

Spivack, G., Spotts, J., and Haimes, P.E. Devereaux Adolescent Behavior Rating Scale Vevon, Pennsylvania: The Devereaux Foundation, 1967.

Staats, A.W., and Staats, C.K. Complex human behavior. USA: Holt, Rinehart, and Winston, 1964.

Tharp, R.G., and Wetzel, R.G. Behavior modification in the natural environment. New York: Academic Press, 1969.

Ullman, L., and Krasner, L. Behavior influence and personality, The Social Matrix and human interaction, New York: Holt, Rinehart, and Winston, Inc., 1973

Ulrich, R.E., Wolfe, M., and Marland, W. Operant conditioning in the public schools. Behavior Modification Monographs, 1, (1), 1970.

Ulrich, R.E., Mountjoy, Paul T. The experimental analysis of social behavior. New York: Appleton-Century Crofts, 1972.

Woodruff, A.S., and Kapfer, P.G. Behavioral objectives and humanism in education: a question of specificity. Educational Technology, 12, (1), 1972.